Forest Health Notes

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Be on the lookout for emerald ash borer!

The emerald ash borer (*Agrilus planipennis*) is not known to exist in North Carolina. This non-native invasive pest was first observed killing ash trees around Detroit, Michigan in 2002 and since then has spread outward. It is now found in the following states and provinces: Illinois, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Missouri, New York, Ohio, Pennsylvania, Tennessee, Virginia, Wisconsin, West Virginia, Ontario, and Quebec. Since it was initially identified, emerald ash borer (EAB) has killed tens of millions of ash (*Fraxinus* spp.) trees in Michigan and tens of millions more across the rest of the listed states. Though ash is a minor component in the forests of North Carolina, it is a popular urban tree statewide.

Over the last couple of years, EAB has been quietly expanding its range within two of our border states: Tennessee and Virginia. Within these two states, EAB has been confirmed in five counties that border North Carolina: Monroe, Blount, and Sevier in Tennessee and Pittsylvania and Halifax in Virginia (see the map at the end of this document). **This pest is an imminent threat to ash trees in North Carolina.**

How will I recognize emerald ash borer?

The symptoms of EAB attack are much more easily noticed than finding the actual beetle itself. When a tree is infested, the crowns of ash trees begin to thin from the top down and lose their leaves. In addition, increased woodpecker activity may be observed and epicormic sprouts (new branches) may form along the trunk of the tree. The infested trees basically have an overall look of decline and the trees may be infested for multiple years before the symptoms appear.

There are a few native pests that can cause some or all of these symptoms, so it is important to take a closer look if you have a suspect tree. If the trees are infested by EAB, there are different signs to look for depending on the time of year. Generally, EAB overwinter as larvae and begin pupation in late April or early May. Adults

begin emerging in May to June and can be found throughout the summer months. The adults are very small, 1/4 to 1/2 inch long, slender, and are a metallic green. When the adult beetles emerge from the tree, they create "D" shaped exit holes. The larvae are about 1 to 1¼ inch long, flattened, and have characteristic "bell-shaped" body segments. The larvae create serpentine feeding galleries that can be found under the bark of the infested trees; these galleries are sometimes exposed by splits in the bark of the tree. Photos of the signs and symptoms of this pest can be found at the end of this document.

How does it spread?

The primary mechanism by which EAB spreads is with human assistance. Emerald ash borer can be present in many types of living and/or dead ash material including nursery stock, wood chips, green lumber, and perhaps most importantly, firewood. Though natural spread is occurring around infested areas, new EAB infestations have appeared sometimes hundreds of miles from the closest known infestations. Many of these new infestations have been found in campgrounds or other recreational sites, leading researchers to conclude that firewood movement was the source of the introductions. We can help minimize our exposure to the EAB by promoting the use of local firewood at our parks and campgrounds whenever possible.

How will we know when it gets here?

There are formal surveys for EAB occurring in our state, but the more people we have looking for this pest, the better. In other states, many new infestations of non-native pests have been spotted by informed resource professionals and concerned citizens.

Each year, the USDA Animal and Plant Health Inspection Service conducts an EAB detection trapping program along with state cooperators including our agency and the N.C. Department of Agriculture and Consumer Services - Plant Industry Division. The traps are very noticeable and you may see them in various locations across the state. They are purple, three-sided, about 3 feet tall, and each side is about one foot wide. These purple traps, which are covered with a sticky material, are hung about 20 feet high on or near ash trees throughout the summer months to attract dispersing adult EAB beetles.

What should I do if I think I've found EAB?

Suspected EAB-infested trees should be reported to the N.C. Forest Service - Forest Health Branch (Contact information next page) or you can report suspect trees via email at newpest@ncagr.gov.

Forest Health (FH) Contact Information

Brian Heath - FH Specialist West
O: 828-438-3793
C: 828-413-2291
Brian.Heath@ncagr.gov

Craig Lawing - FH Tech West
O: 828-438-3793
C: 828-430-0883
Craig.Lawing@ncagr.gov

VACANT - FH Specialist East
O: 919-731-7988 x209
C: 919-609-1556

Wayne Langston - FH Tech East
O: 919-731-7988 x214
C: 919-920-4906
Wayne.Langston@ncagr.gov

Rob Trickel - FH Program Head
O: 919-857-4858
C: 919-604-5802
Rob.Trickel@ncagr.gov

Jason Moan - FHM Coordinator
O: 919-553-6178 x223
C: 919-280-7219
Jason.Moan@ncagr.gov

Found in Firewood

Keep a lookout for the logo below which symbolizes forest pests that can be found or transported in/on firewood. This logo will be added to NCFS posters, pamphlets, and other outreach materials that discuss pests that move in firewood. Help keep North Carolina green by promoting the use of local firewood.

Signs and Symptoms of EAB

Declining Ash Tree
Photo taken near Frankfort, Kentucky
J. Moan, N.C. Forest Service

Epicormic sprouting
E. Czerwinski
Ontario Ministry of Natural Resources
www.forestryimages.org

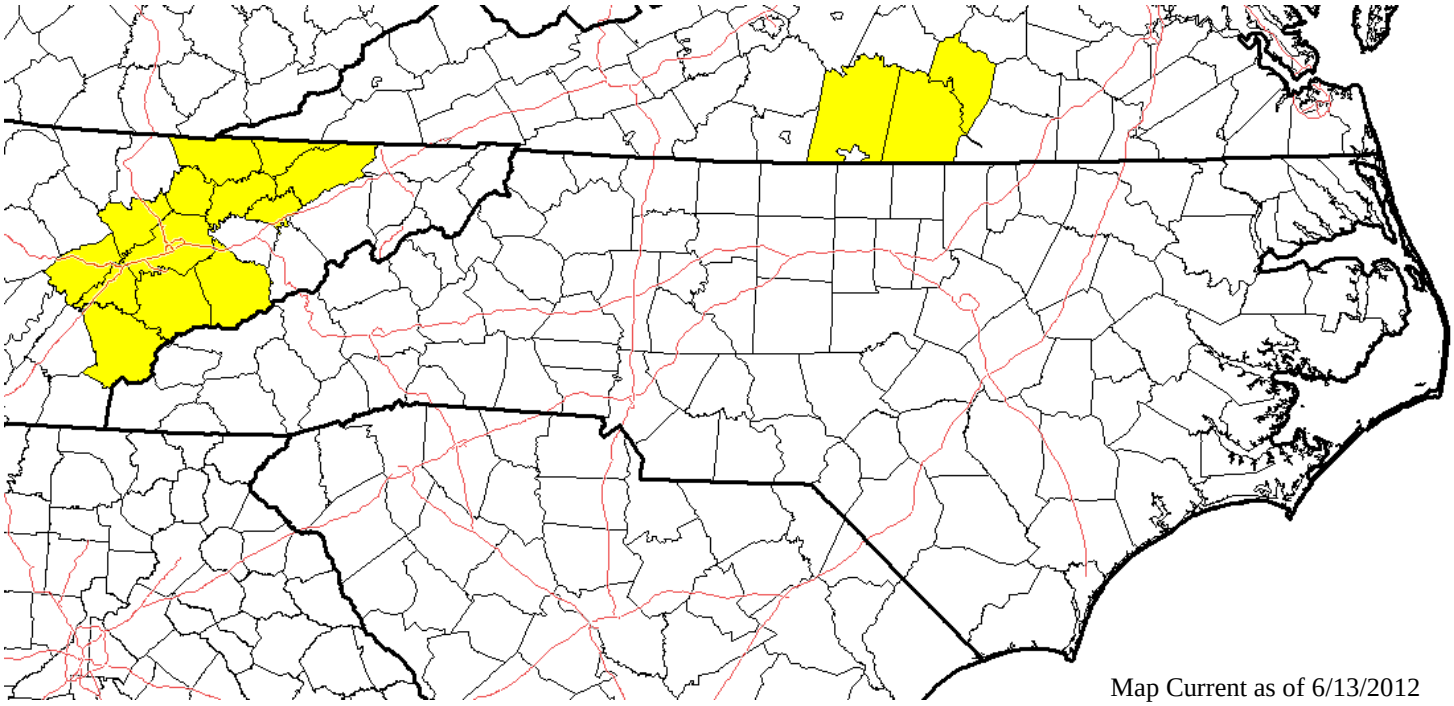
Adult beetle (~1/2 inch long)
D. Cappaert, Michigan State University
www.forestryimages.org

"D"-shaped exit hole
Photo taken near Frankfort, Kentucky
J. Moan, N.C. Forest Service

EAB Larva (~1 inch long)
Notice bell-shaped body segments
Photo taken near Frankfort, Kentucky
J. Moan, N.C. Forest Service

Serpentine feeding galleries
Photo taken near Frankfort, Kentucky
J. Moan, N.C. Forest Service

Current known range of emerald ash borer in Tennessee and southern Virginia (shown in yellow)



Map Current as of 6/13/2012

Additional Information

For additional information, please visit these links:
Emerald ash borer - www.emeraldashborer.info
Firewood movement - www.dontmovefirewood.org/

For other non-native forest pests of concern to North Carolinians, please visit
http://www.ncforestservice.gov/forest_health/fh_firewood.htm